

PICTURE MAKING
with
CENTURY CAMERAS



1904

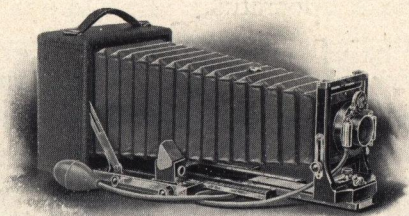
PUBLISHED BY
Century Camera Company
ROCHESTER, N.Y.

PRICE, 10 CENTS

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To the . . .
Purchaser.

THE mission of this little manual is to give in concise form full directions for the proper handling of CENTURY CAMERAS by those not familiar with photography or photographic apparatus. In addition to instructions for operating the camera under varying conditions, information is given that will be found not only interesting but valuable to beginners, and which, if followed, will aid them in producing successful results. Every Century Camera is carefully inspected before shipment, and guaranteed to be in perfect working order. If any trouble arises, consult your dealer or write us; we are glad to be of service to our patrons.

Century Camera Co.

Picture Making

WITH

Century Cameras

The series of Century Cameras comprises 12 different styles, designated Models 40, 41, 42, 44, 46, Century Grand, Century Grand Sr., Long Focus Grand, Petite Model 1, 2, 3 and Petite Grand. The general instructions for manipulating will apply to all styles, but of course the more elaborate and higher priced cameras contain adjustments not found in the simpler and less expensive types. The proper use and advantages of these features will be explained in due course.

Instantaneous Exposures.

Open the Camera by pressing the concealed button on top. You can readily locate it at the side of handle—marked by a circle stamped in the leather. The folding bed will drop forward. Pull it down until at right angles with the camera; it will lock automatically by means of the spring actuated side arms. Draw out the front with lens and shutter, by simply turning the brass bar, or automatic clamp, at the base of front, to the right or left. When pressure is released the bar will assume its normal position—straight across the bed—*the clamp is then set, and the front carrying lens cannot be moved.* A slight turn in either direction, with the thumb and forefinger, will permit the front to move forward. The instant you release the brass bar the front will lock automatically.

View Finder—On one side of the folding bed you will notice a little brass bound box, with a hood; this is called a *view finder*, and is in reality a miniature camera. It shows, in reduced form, the picture as it will appear full size, and thus serves as a guide to locate or “find” the view or object you wish to photograph.

Focusing—On the other side of the camera bed directly opposite the finder, is an ivory tablet containing numbered lines. This is called a focusing scale, and the numbers represent so many feet. The usual marking is for 5, 7, 10, 15, 25, 50, and 100 feet. Now estimate, approximately, the distance in feet of the principal object in your picture. This may possibly require a little practice at first, but you will soon be able to readily measure distance with your eye. Remember, the closer an object is the more accurately it must be focused to secure a “sharp” picture. At a distance of 25

or 50 feet, a few feet one way or the other will make no difference, but with a subject within 5, 7, or even 10 feet of the camera, a close estimate is desirable. Objects beyond 100 feet will be in focus when the index is at 100.

Now move the front forward until the small index or pointer at the left is opposite the figures corresponding to the estimated distance.

The Petite Century series 2, 3 and Grand, also Models 41, 42, 44, 46 and Grands have a rack and pinion for focusing. This adjustment will be found of great convenience for time exposures, with the camera on a tripod or suitable support, when the focus is usually adjusted on the ground glass screen. We will refer to it later on.

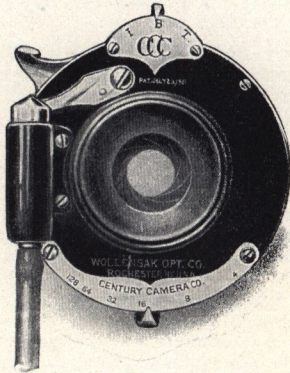
Century Shutters.

Four styles of shutters are used with our regular equipments. The Petite Century No. 1, and Model 40 have our No. 3 Automatic Shutter (see page 6). The Petite Century No. 2 has No. 2 Automatic. Model 41 has either No. 2 Automatic (page 7) or Improved Double Valve Shutter (page 8). The Petite No. 3 has Improved Double Valve Shutter. The Petite Grand, also Models 42, 44, 46 and Regular Grand Cameras are furnished with our New No. 1 Automatic Double Valve Shutter (page 9). On the next four pages we illustrate the different Shutters and give detailed directions for manipulating them.

Turn to illustration of Shutter fitted to your Camera then read directions carefully.

Instructions for operating the Bausch & Lomb Diaphragm and Goerz-Sector Shutters fitted to Century Grand Special Cameras, will be found on a card accompanying the shutter.

No. 3 Single Valve Automatic Shutter.



Fitted to Petite No. 1 and Model 40.

This shutter does not require to be set. It is always ready for use, being released and set again by one pressure of the bulb. It will operate for instantaneous, time, or bulb exposures.

For Instantaneous Exposures—Place the small indicator at the top of shutter at I. To release shutter simply press the bulb.

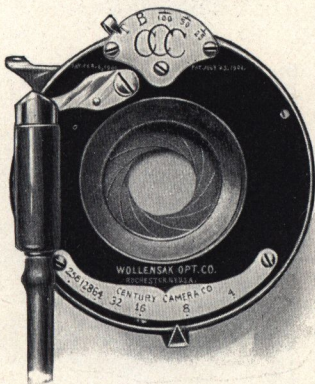
For Time Exposures—Turn the indicator to letter T. One pressure of the bulb will open the shutter, a second pressure closes it.

For Bulb or Short Time Exposures—Move the indicator to letter B. The shutter will now remain open so long as pressure is exerted on the bulb. When pressure is released the shutter closes.

Diaphragms—The Iris Diaphragm is regulated by moving the small index at the bottom to the right or left.

Never use oil on any part of the shutter.

No. 2 Single Valve Automatic Shutter.



Fitted to Petite Century No. 2 and Model 41.

This is also a self-setting shutter, and operates for either instantaneous, time, or bulb exposures.

For Instantaneous Exposures—Move the small index at the top until it is opposite one of the figures indicating approximate speed, in fractional parts of seconds. To release shutter, simply press the bulb.

For Time Exposures—Move the index until it stands opposite the letter T. One pressure of the bulb will open the the shutter, a second pressure closes it.

For Bulb or Short Time Exposures—Move the index to letter B. The shutter will now remain open so long as pressure is exerted on the bulb or finger release. When the pressure is released the leaves close.

Diaphragms—The Iris Diaphragms are regulated by moving the small index at the bottom to the right or left.

Never use oil on any part of the shutter.

Century Regular Double Valve Shutter.



Fitted to Petite Century No. 3 and Model 41.

The Double Valve Shutter is one of the neatest and most perfect working models yet devised. It has triplicate movement, operating for instantaneous, time, or bulb exposures.

For Instantaneous Exposures—Engraved on the head or disc, which revolves under the plate marked CCC, are figures denoting various degrees of speed, in seconds and fractional parts of seconds. Turn the disc until indicator points to speed desired. At the top of each nicked pump, at either side, is a trigger. The shutter is set by pulling out the trigger on the RIGHT (supposing the shutter faces you). To release, simply press the bulb or trigger at the left.

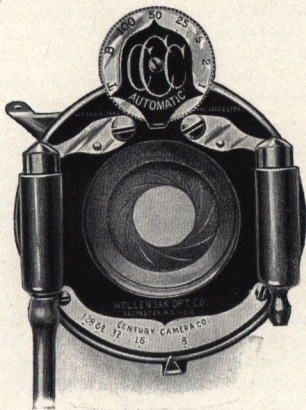
For Time Exposures—Place the indicator at T on the dial; pull out the right-hand trigger as above. One pressure on the bulb opens the shutter, and a second pressure will close it.

For Bulb or Short Time Exposures—Turn the indicator to B. The shutter will now remain open so long as pressure is exerted on the bulb, closing when pressure is removed.

The Iris Diaphragm is adjusted by moving the small index at the bottom to the right or left.

Never use oil on any part of the shutter.

No. 1 Century Automatic Shutter.



Fitted to Petite Century Grand, also Models 42, 44, 46,
and Regular Grand Cameras,

This style of shutter does not require setting; it sets itself automatically, and can be adjusted for either instantaneous, time, or bulb exposures.

For Instantaneous Exposures—Turn the milled disc at the top until the indicator attached to name-plate CCC points to the speed desired. The figures on the disc represent degrees of speed in seconds and fractional parts of seconds. When set at Fig. 1, the exposure will approximate one second; Fig. 2 will give one-half second; Fig. 5 one-fifth second, etc. To expose the plate simply compress the bulb.

Remember, the shutter is now set for another exposure.

For Time Exposures—Place the indicator opposite T on disc. One pressure of bulb will open the shutter, a second pressure will close it.

For Bulb or Short Time Exposures—Turn the indicator to B. The shutter will now remain open so long as pressure is exerted on the bulb, closing when pressure is removed.

The Iris Diaphragm is adjusted by moving the small pointer at the bottom to the right or left.

Never use oil on any part of the shutter.

THE IRIS DIAPHRAGM.

The diaphragms or stops serve two purposes. They regulate the volume of light entering the lens in a given time, and also improve the definition of a picture, or, in other words, make the photograph clear and distinct.

The system of numbering stops now in almost universal use, is known as the U. S. or Universal System. The different openings are numbered according to their area. In other words, each stop requires just twice the exposure of the next larger, or one-half the amount of the size smaller stop. For example: If you find under certain conditions, with a certain plate, stop No. 16 requires 1 second exposure, then No. 32 will require twice the time, or 2 seconds, as it admits only one-half the amount of light in the same time, while stop No. 8 will need but one-half the time, or $\frac{1}{2}$ second, under similar conditions. The smallest stops are used for time exposures only.

LENGTH OF EXPOSURE.

A perfectly timed negative can only be secured when the sensitive plate has been acted upon for a sufficient time by the light reflected on its surface through the lens. It is impossible to give a fixed rule for estimating the duration of exposure, as the time must vary according to condition of light and nature of the subject. As a guide, however, or basis for the beginner to work upon, the average outdoor view, if the sun is shining brightly, can be successfully photographed by using a moderately large stop, a rapid plate, and the shutter set at about 1-50th. An open or distant landscape will require a little less time, while for seashore scenes and exposures made on the water, a size smaller stop can be used to advantage with an increase in speed of the shutter.

For moving figures, set the shutter at its highest speed, and use Stop No. 8. or larger, with a rapid plate. If the light is not very bright, the amount of time mentioned must be considerably increased. Views with masses of foliage forming a prominent part of the foreground require more time than open scenes. *Over-expose* rather than under-expose. An over-timed plate can often be so treated in developing that a good negative will result, but an under-exposed plate is practically worthless.

Do not attempt to photograph rapidly moving objects passing directly across the plate. Place the camera in such a position that the subject will approach at an angle. A much sharper image will result.

Always have the light at your back or coming from one side. Never let the sun shine directly into your lens. Remember, it is the subject that requires the light and not the camera.

HOW TO HOLD THE CAMERA.

For near objects the camera should be held fairly low, to include sufficient foreground for artistic effect, while for distant objects the best results are usually obtained by holding the camera as high as convenient to cut off surplus foreground, and include in the angle of view about the same field we get with the eye. Ordinarily, if the camera is held against the breast, at sufficient height to watch the finder, a pleasing perspective will result.

MAKING THE EXPOSURE.

Assuming you have filled or "loaded" the double plate-holder, slide it in position between the ground glass screen and back of camera, being sure the rabbit rests in the groove. Withdraw the holder-slide nearest the lens, and all is ready.

Keep the camera level and perfectly still. When the object or view appears on the finder as you desire it, press the bulb, and the exposure is made. Replace the holder-slide—and just here a word of caution. Always insert and withdraw the slide *squarely*, not a corner first. If started in at an angle, the light-excluding shutter opens clear across the holder, and the result will be a “fogged” or spoiled plate.

TIME EXPOSURES.

If the day is cloudy and the light too weak for instantaneous work, or if the picture is to be made indoors or under trees, or in a shady spot outside, then to secure a perfect plate, a time exposure must be given. For time pictures the camera cannot be held in the hand, but should be placed on a tripod or other suitable support, to avoid blurring the image. Turn the indicator of shutter to letter T on the dial and press the bulb. Drop the panel at the back of camera, throw a cloth over your head and look *at* the ground glass screen—don't try to look *through* it. The picture always appears reversed, as the rays of light cross before reaching the screen, but you will soon become accustomed to this.

The image will very likely be all blurred or “fuzzy” for the reason it is out of focus. Move the lens forward or backward, as may be required, until the picture on the screen is clear and well defined.

Now adjust the diaphragm—the numbers of the different sized openings are marked on a scale at the bottom of shutter. Close shutter by pressing the bulb. Place the plate-holder in position, and withdraw slide nearest the lens. Press the bulb to open shutter. When the required time has elapsed, a second pressure will close it. Insert the slide, remove holder, and you are ready for the next exposure.

THE RACK AND PINION.

Century Cameras, with the exception of Petite Century No. 1 and Model 40, are fitted with a rack and pinion, which is a convenient adjustment for accurate focusing. The pinion wheel sets in flush with the bed, on the same side as the finder, and pulls out for use. Turn the pinion, and the lens and shutter will move forward or back as required. When proper focus is secured, push in the pinion as far as possible. This will *lock the bed* securely and prevent any chance of disarranging the focus.

Petite Century Grand also Model 46 and all regular Century Grand Cameras have two pinion wheels in the bed. The forward one is for focusing; the rear pinion adjusts the swing, and will be referred to later.

INTERIOR EXPOSURES.

The time required for an interior picture is very long compared with an outdoor exposure, owing, of course, to the immense difference in the intensity of light. This may be appreciated, to a certain extent, by noting how brilliant the image will appear on the focusing screen if the camera is outside, and the sun shining, but how dim and dark it seems when brought inside and focused in an ordinary room.

For inside portrait work, use the lens wide open (no stop). If the room is fairly well lighted, the time required will vary, probably, from 2 to 15 to 20 seconds, depending on the color of the walls, size and number of windows, etc.

When photographing an interior without figures use a small stop and increase the time of exposure accordingly. This may mean *minutes*, where you have been giving seconds. Pictures of rooms and churches sometimes require *hours*, if the illumina-

tion is poor, and surrounding objects are of a dark color, reflecting but little light.

In making interior pictures, avoid pointing your camera directly at a window, as the glare of light will cause a blur. If the window cannot be avoided, then draw down the curtain.

THE REVOLVING BACK.

The revolving back is that part of the camera carrying the focusing screen, and into which the plate-holder slides. To change the plate from a horizontal to a vertical position, release spring-catch at the side, then revolve back either to left or right to desired position. When back arrives in a perfect horizontal or vertical position, the spring-catch at side will automatically engage the back, so that it cannot possibly be moved until released by pressing spring-catch at side. If properly manipulated it can easily and quickly be changed from one position to the other. This method of construction enables you to change easily and quickly from vertical to horizontal pictures, without disturbing the position of the camera.

Nearly all cameras are made for plates longer one way than the other. The most convenient and popular sizes are 4 x 5, 5 x 7, 6½ x 8½, and 8 x 10 inches. Usually the picture is made the long way of the plate, *i. e.*, taking a 4 x 5 inch plate, for example, the picture ordinarily would be 5 inches long and 4 inches high. It is often desirable, however, to change the proportion, especially when making portraits, high buildings, etc., and have the short side of the plate as the base.

Cameras which do not possess a revolving or reversible back must be *turned over completely* to accomplish this, and then the various adjustments cannot be as readily manipulated.

RISING AND FALLING FRONT.

Examine the front of your camera, to which is attached the lens and shutter. You will observe it can be moved up and down between its supports, by loosening the milled heads at either side, or by means of a rack and pinion. The purpose of this adjustment is to shift the lens from its normal position at the center, to a higher or lower position, as the case may require. Raising the lens cuts off a portion of the foreground, and includes more sky. If placed below the center of the focusing screen (or sensitive plate, when the latter is in place), the amount of foreground is increased, and sky diminished.

The rising and falling front is also useful when photographing tall buildings. In close quarters, the top, many times, cannot be included, unless the lens is placed above the center.

Upon the proper arrangement and correct proportion of sky and foreground depends, to a large extent, the artistic effect of the picture.

The fronts of Petite Century Grand, Petite No. 3 also Models 46 and regular Century Grand Cameras are arranged to move horizontally as well as vertically, and are called *Double Sliding Fronts*. The vertical movement of the Grand fronts is controlled by a fine rack and pinion. To adjust, *pull out* the pinion head as far as possible, and revolve in either direction. When lens is at the desired position, *push in* the pinion head and the front is locked.

The horizontal adjustment is obtained by loosening the milled head just under the lens board.

Special Notice—Care should be taken to replace the lens and shutter in the center, before attempting to close the camera, otherwise the bellows cannot fold properly, and in time is likely to become damaged.

The Century Swing Back and Swing Bed.

The purpose of a swing back and swing bed is to keep the sensitive plate always absolutely perpendicular or parallel with the subject. This is done to avoid distortion, which follows if the plate is inclined at an angle. Neither the swing nor rising front is absolutely essential for instantaneous exposures with the camera held in your hand, but they are very valuable features for architectural subjects,—in fact, for general tripod work cannot be dispensed with.

Many times you will find, when attempting to secure the picture of a tall building, even by manipulating the adjustable front, a considerable portion is still out of range. The only alternative is to *tilt the camera upward* at such an angle that the whole building is included in the view. But the plate by this change will be inclined also, and if left in that position the sides of the building will converge toward the center, throwing the subject decidedly out of shape. Century Cameras, excepting Petite, No. 1 and 2 also Models 40 and 41, are provided with swing back and swing bed—both serving the same purpose. There is a decided advantage, however, in having a camera constructed so that either the back or bed will swing, for the reason a swing bed obviates the necessity of any rearrangement of the tripod legs after the camera is once set up and leveled. Century Cameras having the swing are provided with two tripod nuts, one in the bed and another fitted to the case or body of the camera. If the tripod is attached to the latter, then the camera can be set up and leveled once for all. If, after examining the image on the focusing screen, you find a portion of the subject cut off at the top, *swing the bed*. In Petite Century No. 3 and Grand, also Models

42 and 44, this is accomplished by loosening the the milled heads at the base of brass side arms. When the desired angle is obtained, the bed is secured by tightening the two milled heads mentioned.

If the tripod is attached directly to the bed, then you will *incline the back*, but, as previously pointed out, it will be necessary to again adjust the legs in order to place the plate perfectly perpendicular, or parallel with the subject.


The swings of the regular Century Grand, also Model 46 are manipulated by a rack and pinion, located at the rear of the bed, back of the focusing pinion, and for use needs only to be extended beyond the edge. Care must always be taken to *pull out the focusing pinion* before swinging the back, otherwise it forms a lock and the back or bed cannot move. To lock the swing, push rear or swing pinion in flush with bed.

The Century Grand Sr. is fitted with both vertical and horizontal swing backs in addition to a swing bed—and in this respect is a unique camera. The swing bed is operated by a special pinion back of the focusing pinion. To adjust either the vertical or horizontal swing back, first turn the nicked milled heads on the outside of the camera *up*—toward the handle until the back with ground glass screen is separated from the camera box about half an inch. The back may then be inclined at any desired angle, and is held in position by adjusting the small milled head at the bottom.

The horizontal swing is operated by turning *one*, not both, of the nicked milled heads, allowing the back to remain stationary at one side.

The Long Focus Century Grand also has a horizontal swing back, which is adjusted by a milled head or micrometer screw on the back frame.

The vertical swing adjusts by rack and pinion at the rear of front bed.

Before closing the camera be sure the back is *perfectly straight* and absolutely perpendicular with the bed. The correct position is indicated by a small arrow  on the bed. Do not use force in manipulating your camera; all parts should work easily and smoothly.

New Convertible Lenses with Long Focus Century Cameras.

Special lenses of the convertible type are furnished with Petite Century No. 3, Petite Grand also Models 44, 46, and all regular Grands, these cameras having bellows of sufficient length to permit the use of the long focus single combinations. By "convertible" we mean the complete lens is formed of two achromatic combinations of different foci, one being in front of the shutter, the other at the back. Either combination of the lens may be used alone, which is a great advantage for certain work, such as distant landscapes, mountain scenery, or pictures in which the subject is located so far away that it appears very small and somewhat insignificant when photographed with the regular compound lens.

The longer the focus of a lens the greater will be its magnifying power, but as the size of the image increases, the angle of view decreases.

Take the 4 x 5 Planatic lens, as fitted to Century Grand, for illustration. The compound lens, as it is called when both combinations are used, measures $6\frac{1}{4}$ inches focus; or, in other words, if you focus on an object 100 feet or beyond, the distance from the lens to the ground glass screen will measure $6\frac{1}{4}$ inches. The front combination is $14\frac{1}{2}$ inches focus, and the back lens $10\frac{1}{2}$ inches.

The foci of both front and back lenses are engraved on the barrel.

The operator has, in reality, three lenses in one, but for ordinary work it is always best to use the complete lens, reserving the single combinations for the particular class of pictures mentioned above. Remember, that with one combination of the lens a much longer exposure is necessary, as the speed is considerably less than possessed by the compound lens. The front or back lens, when used alone, will require from three to five times as much exposure as the compound lens.

Models 44 and 46 have a bellows long enough to accommodate the *back* combination of the convertible lens. The Century Grand Cameras have a three-section bed, with bellows permitting the use of the front combination as well as the back. When using single lenses the focus is adjusted on the ground glass screen.

WIDE ANGLE LENSES.

A wide angle lens is a valuable adjunct to any outfit. It includes a much larger field than the regular lens, and is useful for photographing interiors, architectural or other subjects in confined situations. Century wide angle lenses are mounted in cells to interchange with the Rapid Symmetrical, Rapid Convertible and Planatic lenses.

The Century Grand Sr. and Long Focus Grand are constructed to permit the use of *very short focus* wide angle lenses as well as long focus lenses. For wide angle work simply *drop* the main bed by unlatching the brass side arms (front of camera and lens remaining inside). The Grand Sr. is furnished with a supplementary bed which slides under the front and locks automatically in place. The lens is then drawn forward on the short bed and the focus adjusted with pinion, which pulls out for convenience.

To detach the supplementary bed, push the front with lens back into the camera just as far as it will go. Rack out the bed about an inch to uncover the spring which locks the bed. Press down on this flat spring plate, and at the same time *pull out* the bed from supports at the side.

When using a wide angle lens with the Long Focus Grand, place the front with lens *inside* the camera, then drop the bed by detaching the brass side arms. The focus is adjusted by rack and pinion on the rear bed.

When using a wide angle, or, in fact, any lens of short focus, with the Century Grand or other cameras having a long bellows, always attach the ring on top of bellows to the small brass knob fitted to the rising front. This permits the rays of light to reach the extreme edges of the plate.

COPYING WITH CENTURY CAMERAS.

This is another field of work for which the long bellows cameras are well adapted. The photograph, engraving, painting or whatever you wish to copy, should be attached to an upright support and placed near a window, so that a strong but diffused and even light will fall upon it. Have the camera directly opposite your subject, and at the same height. Adjust the focus, use a small stop and give a liberal exposure. Slow plates are better for copying than the extremely rapid brands.

CARTRIDGE ROLL HOLDERS.

A special circular accompanies each holder, giving detailed instructions for using the daylight roll holder and cartridge rolls of film.

TO ATTACH THE CARTRIDGE ROLL FILM HOLDER TO REGULAR CENTURY CAMERAS.

1. To remove the revolving back from body of camera first release spring catch at side then revolve the back diagonally across the camera when you will notice in upper right hand corner a small metal plate with projecting ledge. An upward pressure on metal plate will disengage revolving back from camera and it may be instantly removed.

2. To attach roll holder or curtain slide shutter place same diagonally across back of camera being careful to see that metal plate at left hand bottom corner of camera-back is inserted into groove of shutter or roll holder,—then press upward on metal plate at upper right hand corner of camera-back at the same time pressing the article to be attached close to the camera. When pressure is removed from plate with projecting ledge the roll holder or shutter will be securely held and ready to be revolved in any desired position.

TO ATTACH THE CARTRIDGE ROLL FILM HOLDER TO PETITE CENTURY CAMERAS NOS. 2, 3, AND GRAND.

1. Let the lens and shutter remain *inside* the camera, then pull the spring actuated ground glass screen *back* to the limit of motion.

2. While holding screen back, as above, push the two brass knobs (located inside the camera, at the back on either side of bellows) *down* just as far as they will go. The back with screen will then remain extended.

3. Disengage the back from the two brass supports by simply pushing it toward the camera.

4. Slide the Cartridge Film Holder between the two brass supports, being sure the rabbet at the top of holder rests in the groove on the back of camera.

5. Release the side supports by pushing the two brass knobs *up*, at the same time being careful to observe that the ends of the supports engage the brass plates attached to either side of the film holder.

6. After both side supports snap in place, *push the two brass knobs down* as far as possible. The holder is then securely locked in place.

When the Cartridge Film Holder is used the manipulation of the camera is the same, excepting at each exposure you simply turn the key to wind a new film in position.

Important—When the film holder is not attached, be sure the two brass knobs inside the camera and at either side of the bellows are *pushed up* as far as possible, otherwise, the spring actuated back carrying the focusing screen will not recede enough to permit insertion of the glass plate holder.

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CENTURY CAMERA CO.

Rochester, N. Y.

